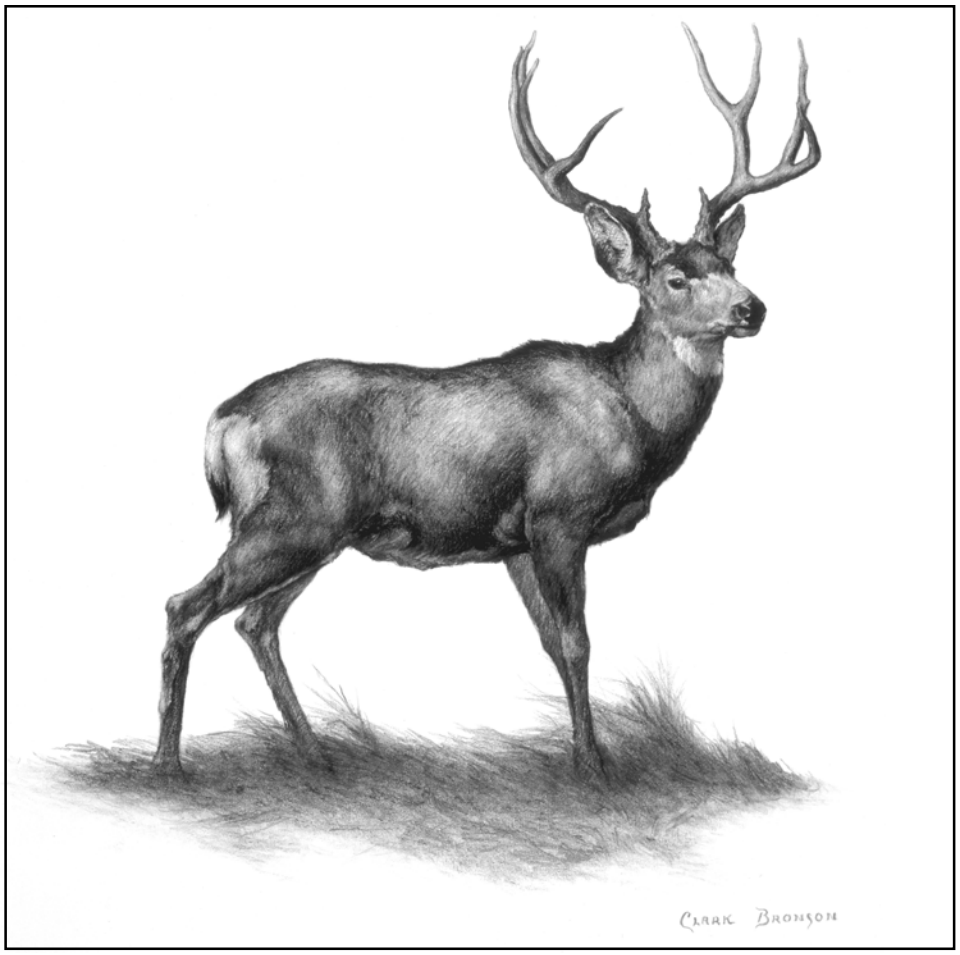
Mule Deer

(Odocoileus hemionus)



The Rocky Mountain mule deer has the broadest distribution of any antlered game animal in North America, ranging from northern Canada to central Mexico

The mule deer has a long history in Utah. Bones from mule deer have been found in and around Indian dwellings and camps, with some dating back several thousand years. The Fremont and Anasazi cultures, which flourished in much of Utah from approximately 650 to 1250 A.D. and from 1 to 1300 A.D. respectively, left fascinating records of mule deer in their rock art. These ancient records tell us that mule deer occupied habitats adjacent to Utah's rivers and streams, as well as other areas prone to periodic disturbance by flooding or fire.

Journals written by early explorers describe a much different Utah than the sagebrush flats and pinyon/juniper foothills seen today. Early explorers found mountains heavily forested with tall trees, and valleys where "the grass grew as high as a horse's belly." Brush communities, which mule deer need for food and shelter, were only found in narrow bands between the forests and the grasslands and along rivers and streams, especially in the northern part of the State. The explorers' descriptions of deer populations also indicate that there were fewer deer occupying less habitat than there are today.

Major changes in habitat and deer populations can be directly tied to modern man's activities. As pioneers began settling Utah in the mid 1800s, deer and other wildlife were hunted to supplement the settlers' meager food supplies. At that time, wildlife was hunted at all times of the year and by all methods. As more land came under cultivation, agriculture and livestock replaced wild game as the primary source of food.

By 1880, the livestock, timber and mining industries in Utah were booming, with the peak in many areas by the early 1900s. These industries made extensive use of rangelands and forests, depleting the native grasses and trees.

Vegetation on these disturbed lands changed from native grasses and forests to sagebrush and other shrubs. While many wildlife species suffered, this change in vegetation was highly beneficial for mule deer populations. With the expansion of quality habitat and a relief in hunting pressure around the turn of the century, the deer herds flourished.

Description

The mule deer gets its name from the size of its mule-like ears. In Utah, it is the smallest member of the deer family; the other two members being the elk and the moose. The Rocky Mountain mule deer (*O.h.hemionus*), the only subspecies found in Utah, is the largest of the 11 subspecies of mule deer. It stands three to three and a half feet tall at the shoulder, with bucks (males) usually weighing 125 to 250 pounds, though some may weigh as much as 350 pounds. Does (females) usually weigh between 100 and 150 pounds. During the winter, mule deer have a heavy, dark grey coat of long guard hairs covering a dense underfur. This is shed in the spring for a lighter reddish-tan coat. Fawns are born with a light brown coat covered with numerous white spots. By the time the fawns are approximately three months old, the spots will have disappeared.

The mule deer has a white rump patch and a narrow black-tipped tail. It holds its tail down when it runs, unlike its cousin the white-tailed deer, which raises its bushy white tail like a flag.

Antlers, found only on bucks, begin growing in late winter and will reach full growth by late summer. Developing antlers are covered with a skin-like "velvet" which supplies blood and nutrients to the developing bone. The velvet is shed by early fall and the antlers harden. Mule deer antlers have a main beam which splits or forks into two branches with each branch or tine (point) being approximately the same length. Typical four-point antlers have secondary forks that arise from these branches. While antler points cannot be used to determine the age of a deer, with proper nutrition, older deer generally have larger antlers with more points than do younger deer. Antlers are shed yearly, beginning in late January to early February.

Reproduction

The mule deer rut, or breeding season, occurs during November and December in Utah. As bucks prepare to enter the rut, they become more aggressive and hyperactive. Throughout the summer and early fall, bucks may "play fight" with one another, which helps establish a dominance hierarchy. During the rut, larger bucks will chase away smaller bucks. If two males of approximately equal size meet, they will posture and possibly lock antlers in a dramatic pushing contest to establish breeding rights. Mule deer bucks are promiscuous, and will breed with any mature doe that will accept them. Does can breed with more than one buck; creating the possibility that multiple births may actually be the offspring of different fathers.

Growth

In Utah, does generally give birth in June. In drier desert areas, in wet, rainy areas or in areas where late spring snow storms are common, the schedule may be moved forward or back, depending on the weather and forage conditions. This strategy gives the young the greatest opportunity for growth before they face harsh winter weather.

Pregnant does leave their herds and find isolated thickets in which to have their fawns. Older does commonly have twins, while younger does will usually have a single fawn. Triplets are known but uncommon. Fawns average about eight pounds at birth, and are able to suckle and follow their mother within a short time of being born. Fawns grow rapidly during the summer months, reaching weights of 70 to 80 pounds by November.

Behavior

Though capable of walking and running soon after being born, fawns survive by hiding. They are odorless at birth and their spotted coat provides excellent camouflage. If the fawn doesn't move, it can usually hide from predators. If it were to try to escape by running, it could become an easy meal for a hungry coyote, cougar or bear.

When nervous, the mule deer's walk becomes stiff and jerky, unlike its normal free flowing walk. When frightened, it bounds away on all four feet. This bounding gait, called stotting, allows for sure footed movement over rugged, brushy terrain. Mule deer can cover a distance of nine to seventeen feet with each stot, and can run at 25 miles per hour for short distances. When chased, a mule deer can change direction with each bound, leaping over rocks, logs and brush to place these barriers between itself and a predator.

Migration

Mule deer living in areas of high snowfall, like Utah's mountains, or in areas with drastically changing climates, like Utah's deserts, will make seasonal migrations between winter and summer ranges. Generally, mule deer summer at

high elevations and winter at low elevations, following the snow line. Bucks will generally use habitats higher in elevation than will does and fawns. During heavy winters, migrating deer will often move into cities and towns in their search for food. Often this causes problems as the deer eat ornamental shrubs and fruit trees in an attempt to survive.

Food habits and habitat

Deer are browsers, and rely on many different plants for their nutrition. While shrubs and brush such as sagebrush, bitterbrush, mountain mahogany, cliffrose, rabbitbrush, scrub oak and willow make up a major part of their diet, mule deer will eat a variety of plants. In fact, researchers have documented Rocky Mountain mule deer feeding on close to 800 different plant species. Of these, over 60% are forbs (non-woody herbaceous plants such as dandelions), 25% are shrubs or trees and 12% are grasses. Mule deer are selective feeders, and rarely concentrate on any single species.

Feeding habits vary with the changing seasons, and many researchers believe that mule deer have the ability to pick and choose the plants with the highest nutritional value during each season of the year. From late spring to early fall, mule deer quickly gain weight and build up fat reserves by feeding heavily on succulent leaves of the plentiful forbs and grasses. In late fall, they feed primarily on the current year's growth of leaves and stems of brush species.

During the winter and early spring when there is little ground forage available, mule deer are on a starvation diet of twigs and branches. This dry, woody vegetation is difficult to digest and lacks enough nutritional value to maintain body condition. During these periods of inadequate nutrition, mule deer use stored body fat to survive. Studies of mule deer during these lean times show that an adult deer may lose up to 20% of its body weight under these conditions, and that mule deer may spend up to six months out of every year on this type of low quality diet. Ultimately, winter survival depends on the weather, stored fat reserves, and the deer's individual ability to conserve precious energy.

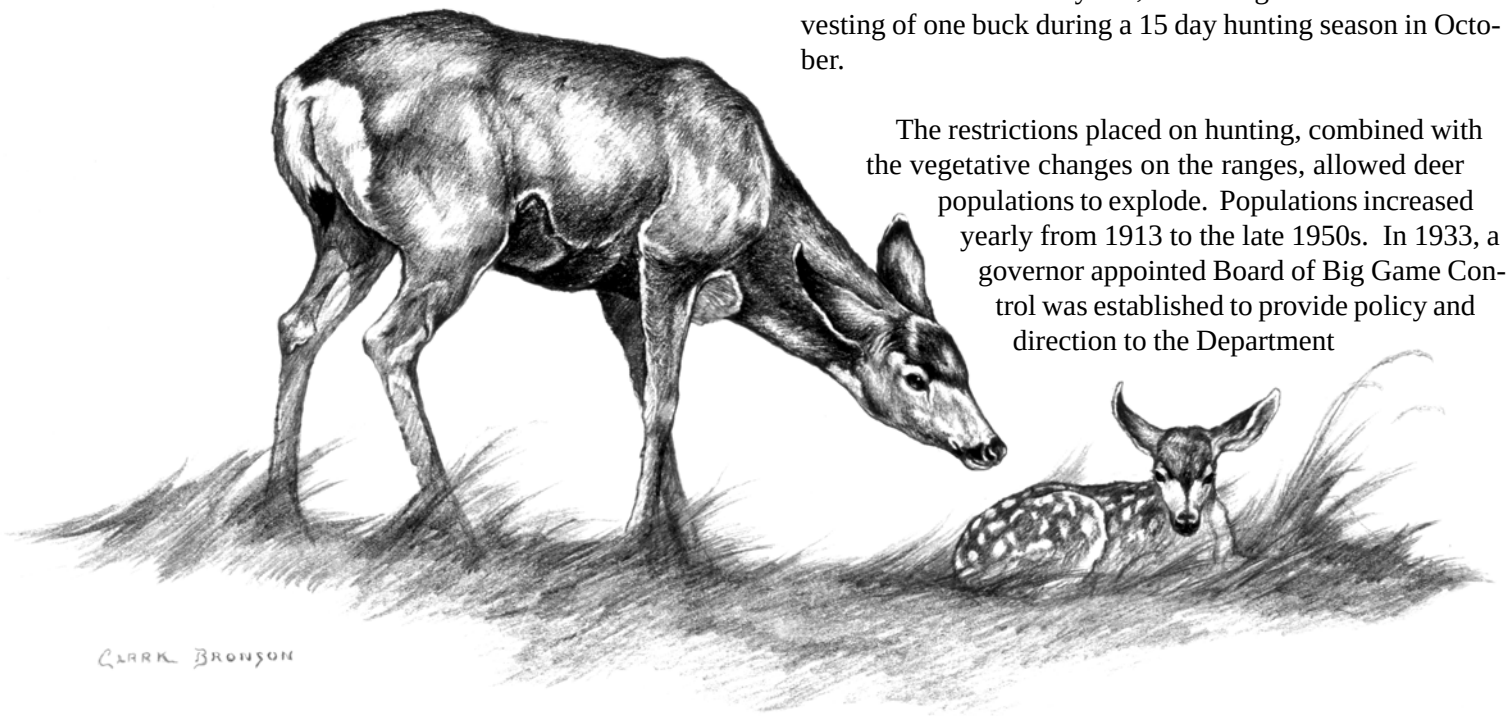
Management

The first protection for Utah's deer and other big game animals came in 1876 in the form of a law passed by the Legislative Assembly for the Territory of Utah. This act prohibited the hunting of deer, elk, bighorn sheep and pronghorn antelope between January 1 and July 1. During the remaining six months of the year, game animals could be hunted without restriction. In 1894, two years before Utah became a state, a branch of government was organized to manage the wildlife of the territory. This branch of government evolved to become the Department of Fish and Game and eventually became the Utah Division of Wildlife Resources.

In 1897, at the insistence of sportsman's groups, forest reserves were created across the country. These reserves would later become national forests. Between 1897 and 1906, over seven million acres of Utah land were placed into the forest reserve program, providing secure habitat for wildlife.

In 1907, the first Utah hunting and fishing license was established. It sold for a fee of one dollar. The state closed its unrestricted six month deer hunt in 1908 for five years to allow depleted deer herds to regenerate. The hunt reopened in 1913 with a buck only law, restricting hunters to the harvesting of one buck during a 15 day hunting season in October.

The restrictions placed on hunting, combined with the vegetative changes on the ranges, allowed deer populations to explode. Populations increased yearly from 1913 to the late 1950s. In 1933, a governor appointed Board of Big Game Control was established to provide policy and direction to the Department



of Fish and Game in managing Utah's big game herds and in alleviating conflicts between wildlife and agriculture. The first limited harvest of does began in 1934.

During the 1950s and 60s, deer populations (combined with other land uses) began to exceed range capacities, and the Board instructed the Department of Fish and Game to manage for the maximum number of animals the range could support under "proper use."

The Department increased its research efforts, and wildlife managers began to work more closely with their counterparts in land management agencies. Sportsmen, farmers and ranchers joined with resource managers to improve the range while reducing deer populations.

Throughout this period, the popularity of the deer hunt continued to grow. The harvest peaked in 1961 when over 132,000 deer were taken. Hunter numbers peaked in 1983 at 228,907 legal hunters.

Over the last 40 to 50 years, long periods of drought, severe winters, aging plants, and the loss of critical habitat have come together with other known and unknown factors to cause a drop in mule deer numbers. By the mid-70s, wildlife managers knew the deer herds were in decline and below the carrying capacity in many areas. Harvests and hunt strategies were tried and adjusted several times. In 1994, a cap on the number of mule deer hunting licenses was instituted, reducing hunting license availability by 40%.

Currently the cap is set at 97,000 licenses annually, which is divided among the five regions of the state. In 2012, management will change to a 30 unit hunting strategy.

What You Can Do

Wildlife biologists have come to realize mule deer are managed by the weather and the availability of high quality habitat. Citizens concerned about mule deer in Utah might consider the following:

• Purchase a hunting license or donate directly to the Utah Division of Wildlife Resources. Money from the sales of hunting licenses and donations provide habitat for wildlife, including mule deer. (Donations may be directed for use only on mule deer projects.)

• Contact land use and highway planners, legislators and local government officials to express your concern and support for the acquisition, preservation and enhancement of mule deer habitat.

• Volunteer to assist wildlife managers and land management agencies in restoring mule deer habitat through planting or reseeding rangelands.

• Become involved with the Mule Deer Foundation (MDF) or another organization dedicated to the preservation of mule deer. For information contact the MDF, 1939 South 4130 West, Ste. H, Salt Lake City, Utah; 1-888-375-DEER (3337) or www.muledeer.org.

Additional Reading

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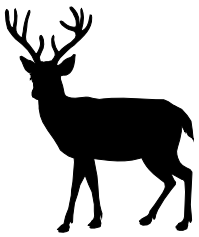

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